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☐ 1: P27430. DNA protection du...[gi:232021]

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LOCUS P27430 167 aa linear BCT 15-SEP-2003
 DEFINITION DNA protection during starvation protein.
 ACCESSION P27430
 VERSION P27430 GI:232021
 DBSOURCE swissprot: locus DPS_ECOLI, accession P27430;
 class: standard.
 created: Aug 1, 1992.
 sequence updated: Oct 1, 1993.
 annotation updated: Sep 15, 2003.
 xrefs: gi: 41294, gi: 41295, gi: 440180, gi: 440182, gi: 1787025,
 gi: 1787032, gi: 1651362, gi: 1651366, gi: 4062381, gi: 1651372,
 gi: 12513807, gi: 12513811, gi: 13360211, gi: 13360349, gi: 41568,
 gi: 24051016, gi: 24051020, gi: 30040349, gi: 30040541, gi: 538739,
 gi: 25318450, gi: 25318452, pdb accession 1DPS
 xrefs (non-sequence databases): PhosSiteP27430, SWISS-2DPAGEP27430,
 EcoGeneEG11415, InterProIPR002177, InterProIPR001519, PfamPF00210,
 PRINTSPR01346, ProDomPD149803, PROSITEPS00818, PROSITEPS00819
 KEYWORDS DNA-binding; Iron; 3D-structure; Complete proteome.
 SOURCE Escherichia coli
 ORGANISM Escherichia coli
 Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
 Enterobacteriaceae; Escherichia.
 REFERENCE 1 (residues 1 to 167)
 AUTHORS Almiron,M., Link,A.J., Furlong,D. and Kolter,R.
 TITLE A novel DNA-binding protein with regulatory and protective roles in
 starved Escherichia coli
 JOURNAL Genes Dev. 6 (12B), 2646-2654 (1992)
 MEDLINE 94040726
 PUBMED 1340475
 REMARK SEQUENCE FROM N.A.
 SPECIES=E.coli; STRAIN=K12 / W3110
 REFERENCE 2 (residues 1 to 167)
 AUTHORS Lomovskaya,O.L., Kidwell,J.P. and Martin,A.
 TITLE Characterization of the sigma 38-dependent expression of a core
 Escherichia coli starvation gene, pexB
 JOURNAL J. Bacteriol. 176 (13), 3928-3935 (1994)
 MEDLINE 94292411
 PUBMED 8021175
 REMARK SEQUENCE FROM N.A.
 SPECIES=E.coli; STRAIN=K12 / W3110
 REFERENCE 3 (residues 1 to 167)
 AUTHORS Blattner,F.R., Plunkett,G. III, Bloch,C.A., Perna,N.T., Burland,V.,
 Riley,M., Collado-Vides,J., Glasner,J.D., Rode,C.K., Mayhew,G.F.,
 Gregor,J., Davis,N.W., Kirkpatrick,H.A., Goeden,M.A., Rose,D.J.,
 Mau,B. and Shao,Y.
 TITLE The complete genome sequence of Escherichia coli K-12
 JOURNAL Science 277 (5331), 1453-1474 (1997)
 MEDLINE 97426617
 PUBMED 9278503
 REMARK SEQUENCE FROM N.A.
 SPECIES=E.coli; STRAIN=K12 / MG1655

REFERENCE 4 (residues 1 to 167)
AUTHORS Oshima,T., Aiba,H., Baba,T., Fujita,K., Hayashi,K., Honjo,A., Ikemoto,K., Inada,T., Itoh,T., Kajihara,M., Kanai,K., Kashimoto,K., Kimura,S., Kitagawa,M., Makino,K., Masuda,S., Miki,T., Mizobuchi,K., Mori,H., Motomura,K., Nakamura,Y., Nashimoto,H., Nishio,Y., Saito,N., Sampei,G., Seki,Y., Tagami,H., Takemoto,K., Wada,C., Yamamoto,Y., Yano,M. and Horiuchi,T.
TITLE A 718-kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 12.7-28.0 min region on the linkage map
JOURNAL DNA Res. 3 (3), 137-155 (1996)
MEDLINE 97061202
PUBMED 8905232
REMARK SEQUENCE FROM N.A.
SPECIES=E.coli; STRAIN=K12

REFERENCE 5 (residues 1 to 167)
AUTHORS Perna,N.T., Plunkett,G. III, Burland,V., Mau,B., Glasner,J.D., Rose,D.J., Mayhew,G.F., Evans,P.S., Gregor,J., Kirkpatrick,H.A., Posfai,G., Hackett,J., Klink,S., Boutin,A., Shao,Y., Miller,L., Grothbeck,E.J., Davis,N.W., Lim,A., Dimalanta,E.T., Potamiosis,K., Apodaca,J., Anantharaman,T.S., Lin,J., Yen,G., Schwartz,D.C., Welch,R.A. and Blattner,F.R.
TITLE Genome sequence of enterohaemorrhagic Escherichia coli O157:H7
JOURNAL Nature 409 (6819), 529-533 (2001)
MEDLINE 21074935
PUBMED 11206551
REMARK SEQUENCE FROM N.A.
SPECIES=E.coli; STRAIN=O157:H7 / EDL933 / ATCC 700927

REFERENCE 6 (residues 1 to 167)
AUTHORS Hayashi,T., Makino,K., Ohnishi,M., Kurokawa,K., Ishii,K., Yokoyama,K., Han,C.-G., Ohtsubo,E., Nakayama,K., Murata,T., Tanaka,M., Tobe,T., Iida,T., Takami,H., Honda,T., Sasakawa,C., Ogasawara,N., Yasunaga,T., Kuhara,S., Shiba,T., Hattori,M. and Shinagawa,H.
TITLE Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and genomic comparison with a laboratory strain K-12
JOURNAL DNA Res. 8 (1), 11-22 (2001)
MEDLINE 21156231
PUBMED 11258796
REMARK SEQUENCE FROM N.A.
SPECIES=E.coli; STRAIN=O157:H7 / RIMD 0509952

REFERENCE 7 (residues 1 to 167)
AUTHORS Nohno,T.
TITLE Direct Submission
JOURNAL Submitted (XXX-1989)
REMARK SEQUENCE OF 79-166 FROM N.A.
SPECIES=E.coli; STRAIN=K12

REFERENCE 8 (residues 1 to 167)
AUTHORS Nohno,T., Saito,T. and Hong,J.S.
TITLE Cloning and complete nucleotide sequence of the Escherichia coli glutamine permease operon (glnHPQ)
JOURNAL Mol. Gen. Genet. 205 (2), 260-269 (1986)
MEDLINE 87115160
PUBMED 3027504
REMARK SEQUENCE OF 142-166 FROM N.A.
SPECIES=E.coli; STRAIN=K12

REFERENCE 9 (residues 1 to 167)
AUTHORS Altuvia,S., Almiron,M., Huisman,G., Kolter,R. and Storz,G.
TITLE The dps promoter is activated by OxyR during growth and by IHF and sigma S in stationary phase
JOURNAL Mol. Microbiol. 13 (2), 265-272 (1994)
MEDLINE 95075312
PUBMED 7984106
REMARK SEQUENCE OF 1-16 FROM N.A., AND SEQUENCE OF 1-19.
SPECIES=E.coli; STRAIN=K12

REFERENCE 10 (residues 1 to 167)

AUTHORS Foster, S.J.
TITLE Purification and characterization of an 'actomyosin' complex from
Escherichia coli W3110
JOURNAL FEMS Microbiol. Lett. 110 (3), 295-298 (1993)
MEDLINE 93359166
PUBMED 8354462
REMARK SEQUENCE OF 1-12.
SPECIES=E.coli; STRAIN=K12 / W3110
REFERENCE 11 (residues 1 to 167)
AUTHORS Link, A.J., Robison, K. and Church, G.M.
TITLE Comparing the predicted and observed properties of proteins encoded
in the genome of Escherichia coli K-12
JOURNAL Electrophoresis 18 (8), 1259-1313 (1997)
MEDLINE 97443975
PUBMED 9298646
REMARK SEQUENCE OF 1-12.
SPECIES=E.coli; STRAIN=K12 / EMG2
REFERENCE 12 (residues 1 to 167)
AUTHORS Noll, M., Petrukhin, K. and Lutsenko, S.
TITLE Identification of a novel transcription regulator from Proteus
mirabilis, PMTR, revealed a possible role of YJAI protein in
balancing zinc in Escherichia coli
JOURNAL J. Biol. Chem. 273 (33), 21393-21401 (1998)
MEDLINE 98362023
PUBMED 9694902
REMARK SEQUENCE OF 1-10.
SPECIES=E.coli
REFERENCE 13 (residues 1 to 167)
AUTHORS Jin, Q., Yuan, Z., Xu, J., Wang, Y., Shen, Y., Lu, W., Wang, J., Liu, H.,
Yang, J., Yang, F., Zhang, X., Zhang, J., Yang, G., Wu, H., Qu, D.,
Dong, J., Sun, L., Xue, Y., Zhao, A., Gao, Y., Zhu, J., Kan, B., Ding, K.,
Chen, S., Cheng, H., Yao, Z., He, B., Chen, R., Ma, D., Qiang, B., Wen, Y.,
Hou, Y. and Yu, J.
TITLE Genome sequence of Shigella flexneri 2a: insights into
pathogenicity through comparison with genomes of Escherichia coli
K12 and O157
JOURNAL Nucleic Acids Res. 30 (20), 4432-4441 (2002)
MEDLINE 22272406
PUBMED 12384590
REMARK SEQUENCE FROM N.A.
SPECIES=S.flexneri; STRAIN=301 / Serotype 2a
REFERENCE 14 (residues 1 to 167)
AUTHORS Wei, J., Goldberg, M.B., Burland, V., Venkatesan, M.M., Deng, W.,
Fournier, G., Mayhew, G.F., Plunkett, G. III, Rose, D.J., Darling, A.,
Mau, B., Perna, N.T., Payne, S.M., Runyen-Janecky, L.J., Zhou, S.,
Schwartz, D.C. and Blattner, F.R.
TITLE Complete genome sequence and comparative genomics of Shigella
flexneri serotype 2a strain 2457T
JOURNAL Infect. Immun. 71 (5), 2775-2786 (2003)
MEDLINE 22590274
PUBMED 12704152
REMARK SEQUENCE FROM N.A.
SPECIES=S.flexneri; STRAIN=2457T / ATCC 700930 / Serotype 2a
REFERENCE 15 (residues 1 to 167)
AUTHORS Zhao, G., Ceci, P., Ilari, A., Giangiacomo, L., Laue, T.M., Chiancone, E.
and Chasteen, N.D.
TITLE Iron and hydrogen peroxide detoxification properties of DNA-binding
protein from starved cells. A ferritin-like DNA-binding protein of
Escherichia coli
JOURNAL J. Biol. Chem. 277 (31), 27689-27696 (2002)
MEDLINE 22140317
PUBMED 12016214
REMARK CHARACTERIZATION AS AN IRON STORAGE PROTEIN.
SPECIES=E.coli
REFERENCE 16 (residues 1 to 167)

AUTHORS Kolter, R.
 TITLE Life and death in stationary phase
 JOURNAL ASM News 58, 75-79 (1992)
 REMARK IDENTIFICATION OF GENE.
 SPECIES=E.coli
 REFERENCE 17 (residues 1 to 167)
 AUTHORS Matin, A.
 JOURNAL Unpublished
 REMARK IDENTIFICATION OF GENE.
 SPECIES=E.coli
 REFERENCE 18 (residues 1 to 167)
 AUTHORS Ilari, A., Ceci, P., Ferrari, D., Rossi, G.L. and Chiancone, E.
 TITLE Iron incorporation into Escherichia coli Dps gives rise to a
 ferritin-like microcrystalline core
 JOURNAL J. Biol. Chem. 277 (40), 37619-37623 (2002)
 MEDLINE 22241953
 PUBMED 12163499
 REMARK CRYSTALLIZATION AND KINETICS OF IRON RELEASE IN CRYSTALS AND IN
 SOLUTION.
 SPECIES=E.coli
 REFERENCE 19 (residues 1 to 167)
 AUTHORS Grant, R.A., Filman, D.J., Finkel, S.E., Kolter, R. and Hogle, J.M.
 TITLE The crystal structure of Dps, a ferritin homolog that binds and
 protects DNA
 JOURNAL Nat. Struct. Biol. 5 (4), 294-303 (1998)
 MEDLINE 98206296
 PUBMED 9546221
 REMARK X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS).
 SPECIES=E.coli
 COMMENT On May 6, 1993 this sequence version replaced gi:118912.

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 collaboration between the Swiss Institute of Bioinformatics and
 the EMBL outstation - the European Bioinformatics Institute.
 The original entry is available from <http://www.expasy.ch/sprot>
 and <http://www.ebi.ac.uk/sprot>

 [FUNCTION] Unspecifically binds and protects DNA from oxidative
 damage mediated by hydrogen peroxide. Iron-storage protein.
 [SUBUNIT] ASSOCIATES INTO A COMPLEX OF 12 SUBUNITS FORMING TWO
 STACKED HEXAMERIC RINGS.
 [INDUCTION] DURING PROLONGED STARVATION.
 [SIMILARITY] BELONGS TO THE DPS FAMILY.
 FEATURES Location/Qualifiers
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 /organism="Escherichia coli O157:H7"
 /db_xref="taxon:83334"
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 /organism="Escherichia coli"
 /db_xref="taxon:562"
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 S0805"
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 Region 10..12
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 Region 18
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Region /region_name="Conflict"
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23..52
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Region 53
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Region 114..138
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Region 142..164
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Region 165
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/region_name="Hydrogen bonded turn"

ORIGIN

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121 ladryaivan dvrkaigeak dddtadilta asrdldkflw fiesnie

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